

ABSTRACT

A method is disclosed for determining the operating condition of a medical pump based on data derived from a pressure sensor and a position sensor. The pressure sensor generates pressure data by sensing the force on the pumping element. The position sensor generates position data by tracking the pumping cycle and determining the position of the pumping element. The pump pressure data and pump position data are processed and the calculated results compared with a pre-determined threshold value to determine the operating condition of the pump. The three main types of operating conditions of concern are the following: normal condition, where liquid is present and no leaks exist in pumping chamber; leak condition, where liquid is present but a leak exists in the pumping chamber; and air stroke condition, where the chamber contains some air.